

Environmental Sustainability at Novartis

Environmental sustainability is important to the core of our business; our continued investment in our planet supports our purpose to reimagine medicine to improve and extend people's lives. It is also a way to build trust with society, if our actions are guided by a commitment to transparency and creating enduring change.

We have a responsibility to prevent climate change and to reduce our carbon footprint. Yet, we cannot consider the fight against climate change in isolation to other environmental challenges: environmental sustainability is not just about carbon, it is also about water, waste and natural resources. All these things impact people's health and we have a responsibility to anticipate and meet the changing needs of current and future patients.

That is why our ambition for 2025 and 2030 is to be a **catalyst for positive change** and a **leader in environmental sustainability**. We will drive sustainability through our own operations and ultimately across our value chain.

The success of our journey starts with our people, and we will enable them with the right tools to be owners of their mindset change.

Our commitments



People

We will encourage associates across our operations to adopt an environmental sustainability mindset.



Patients

We will work to understand how a changing climate will impact people's health.

We will deliver environmentally sustainable medicines to people that need them.



Planet

We will minimize the impact of our actions on the planet and invest in environmental solutions that also protect biodiversity.

Through our value chain, we will benefit ecosystems and planetary health in general.



Climate

Be energy and climate resilient

2025 All Novartis sites to be carbon neutral

Environmental criteria in all supplier contracts

2030 Be fully carbon neutral across the value chain



Water

Ensure sufficient and safe water by being a water steward wherever we operate

All Novartis sites to reduce the amount of water consumed by half

No water quality impacts from the manufacturing of our products

Be water neutral in all areas

Enhance water quality wherever we operate



Circular Economy

Minimize waste and increase material efficiency

Reduce the amount of waste sent for disposal by half

Eliminate PVC from secondary and tertiary packaging

Become plastic neutral



Innovation

We will use data and technology-based tools to boost our agility to respond to future challenges. All new products will meet sustainable design principles.

Be energy and climate resilient

We aim to understand how our actions and consumption impact the climate. We then invest and partner to reduce our impact and build resilience across our own operations, distributed supply chain and patient population. We must do this in order to discover, develop and deliver life-saving medicine even as we see the increased impact from the rapidly accelerating rate of climate change.

 2025

100% renewable electricity at all operations

Switch at least 40% of vehicle fleet to electric power

80% reduction in carbon emissions linked to thermal energy at all operations

Offset any remaining climate emissions in own operations through investment in natural climate solutions

 2030

70% of freight transported by sea for Innovative Medicines and 90% for Sandoz

Offset remaining carbon emissions associated with our value chain through further investment in natural climate solutions

50% reduction in carbon emissions from business travel vs 2018 and offset remaining emissions

Replace diesel backup generation with renewable microgrids at top 10 sites based on generator usage

Top 100 suppliers to achieve 100% renewable electricity



Our 2030 roadmap to carbon neutrality

Where we stand	0-2 years	2-5 years	5-10 years
100% renewable energy			
<p>Total greenhouse gas emissions equal 6 948 000 metric tonnes CO₂e¹; decreased in own operations by 74 000 metric tonnes since 2016²</p> <p>Approved Science Based Targets for Scopes 1, 2 and 3 (1.5-degree scenario)</p> <p>1 power purchase agreement in Santa Rita East, Texas</p> <p>5 power purchase agreements with 3 developers in Europe</p>	<p>Implement power purchase agreements (PPAs) in Europe, Brazil, Turkey</p> <p>Reduce carbon emissions by</p> <ul style="list-style-type: none"> - 44% in Novartis Technical Operations (265 000 tonnes CO₂e) - 40% in Novartis Business Services (63 000 tonnes CO₂e) <p>Drive energy efficiency</p> <ul style="list-style-type: none"> - 15% energy reduction in Real Estate and Facility Services and Research & Development (23 000 tonnes CO₂e saving) - 6% energy reduction in NTO (33 000 tonnes CO₂e saving) 	<p>Implement PPAs in India, China, Singapore, Latin America; for our top 30 suppliers; and in all Novartis data centers</p> <p>Renewable thermal technologies to reduce carbon emissions by 115 000 tonnes CO₂e with a focus on the US and Europe and supply chain partners with high thermal energy footprints</p>	<p>Support implementation of PPAs for our top 100 suppliers</p>
Green vehicle fleet			
	<p>Implement strategy to eliminate carbon emissions from our vehicle fleet, starting in the UK</p>	<p>45% reduction in carbon emissions from our vehicle fleet</p>	<p>94% reduction in carbon emissions from our vehicle fleet</p>
Sustainable aviation fuel			
		<p>Adopted as part of normal operations for corporate jets in available markets up to a 50% blend</p>	<p>Adopted across all markets to maximum volume available in supply chain</p>
Natural Climate Solutions and Biodiversity			
<p>4 forestry programs with 15 million trees planted</p>		<p>Digital innovations to improve transparency and credibility in natural climate solutions and biodiversity investments</p>	<p>100% of our industrial sites and all our operated buildings to have a reduced impact on biodiversity (vs 2020)</p> <p>Focus natural climate solutions for carbon removals on preserving and increasing biodiversity</p>

¹ Currently measure directly 884 000 metric tonnes CO₂e; Scope 1 and 2 market-based from energy consumption

² Scope 1 and 2 market-based from energy consumption

Be a water steward wherever we operate

Health and water are closely interconnected. With our water commitments, we help make sure we use water efficiently and safely throughout the whole medicine lifecycle.



No water quality impacts from manufacturing in all operations

All Novartis sites to reduce the amount of water consumed by half

No water quality impacts from manufacturing Novartis products in all key suppliers



Be water neutral in all areas

Enhance water quality wherever we operate

Our 2030 roadmap to water neutrality

Where we stand	0-2 years	2-5 years	5-10 years
Water consumption reduced by half in own operations			
Reduction target 40% achieved	Water projects identified and implementation ongoing	100% of reduction target achieved	
Water neutral in all areas			
Kick-off Indian watershed project: water availability for farmer and community	Identify sites in scope and understand water dependencies and impacts (internal / external)	Select and implement projects, after gaps and local conditions have been determined	Completion of water projects at sites in scope Continue to improve water efficiency and reuse (linked to target for water consumption)
No water quality impacts from manufacturing effluents			
Introduction of maturity ladder for target for own and key suppliers (3 levels readiness index) 87% of own operations meet water quality target Assessment underway for key suppliers; minimum expectations achieved	>90% of own operations meet water quality target All key suppliers meet level 1 in 2021 and level 2 in 2022	100% of own operations meet water quality target 100% of key suppliers meet water quality target	
Enhance water quality wherever we operate			
Water availability Signed CEO Water Mandate Joined IMI PREMIER and RAMP	Build on existing Healthy Family programs in collaboration with Novartis Global Health Awareness programs for associates and patients	Engage with state governments on water-related topics	Cover water quality throughout the full medicine life cycle Continue to improve water quality from manufacturing effluents (linked to target water quality target)

Minimize waste and increase material efficiency

We will value nature by transforming the way we do our business and collaborating across our value chain to achieve zero waste, improved material efficiency and the sustainable sourcing of materials.



Zero waste to landfill for own operations

Eliminate PVC from secondary and tertiary packaging

Single use plastic eliminated in office locations

Reduce the amount of waste sent for disposal by half



Materials certified as sustainably sourced

Environmental life cycle assessments published for all new products

Become plastic neutral

Our 2030 roadmap to plastic neutrality and eliminating waste

Where we stand	0-2 years	2-5 years	5-10 years
Eliminate waste			
Total waste sent for disposal equals 54 000 metric tonnes; reduced by 13 000 metric tonnes vs 2016.	Define e-waste reduction plan	No waste sent to landfill from Novartis operations ¹ 50% reduction of waste disposal 90% of e-waste recycled or reused	
Eliminate plastics			
	Establish social plastic recycling partnership	Eliminate Single Use Plastic in office locations ²	Purchase sufficient social plastic to offset any virgin plastic still in use
Sustainable packaging			
	Complete feasibility study to eliminate PVC from existing primary packaging	Eliminate PVC from secondary and tertiary packaging ³	
Sustainable sourcing			
	Establish process to identify materials that need to be sustainably sourced	Determine sustainable sources for identified materials	Certify materials which are obtained from sustainable sources
Sustainable products			
Published life cycle assessment for Breezhaler®		Integrate environmental life cycle assessments into product development processes	Provide environmental information about all new products
Takeback schemes			
	For Breezhaler® in Switzerland	For top 10 products and top 10 markets	

¹ Unless prevented by local regulations or when landfill represents the best environmental option (e.g. for radioactive waste)

² At minimum 17 types of Single Use Plastic in common use to be eliminated

³ And primary packaging when feasible